



April 08, 2016

Tom Moe USS Corporation P.O. Box 417 Mountain Iron, MN 55768

RE: Project: NPDES-LINE 3 Wkly Pace Project No.: 1263289

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on March 30, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melisa M Woods

Mazzi Wirds

melisa.woods@pacelabs.com

Project Manager

Enclosures

cc: Terri Sabetti, NTS





315 Chestnut Street Virginia, MN 55792 (218) 742-1042



CERTIFICATIONS

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1263289

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792 Alaska Certification #MN01084 Arizona Department of Health Certification #AZ0785 Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470 WA Department of Ecology Lab ID# C1007 Nevada DNR #MN010842015-1 Oklahoma Department of Environmental Quality

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SAMPLE SUMMARY

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1263289

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
1263289001	WS-002 Scrubber Make-Up	Water	03/30/16 09:00	03/30/16 13:45	
1263289002	WS-003 Thickener Overflow	Water	03/30/16 08:50	03/30/16 13:45	

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SAMPLE ANALYTE COUNT

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1263289

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1263289001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V
1263289002	WS-003 Thickener Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V



ANALYTICAL RESULTS

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1263289

Date: 04/08/2016 10:24 AM

Sample: WS-002 Scrubber Make	-Up Lab ID:	1263289001	Collected	d: 03/30/16	6 09:00	Received: 03/	30/16 13:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered	Analytical	Method: EPA	200.7 Prepa	aration Meth	od: EP	A 200.7			
Calcium, Dissolved	105	mg/L	5.0	0.29	10	04/05/16 11:19	04/06/16 12:16	7440-70-2	
Magnesium, Dissolved	204	mg/L	5.0	0.67	10	04/05/16 11:19	04/06/16 12:16	7439-95-4	
Total Hardness, Dissolved	1100	mg/L	100	50.0	10	04/05/16 11:19	04/06/16 12:16		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0						
Sulfate	734	mg/L	20.0	0.89	10		04/01/16 22:16	14808-79-8	
Sample: WS-003 Thickener Overflow	Lab ID:	1263289002	Collected	d: 03/30/16	6 08:50	Received: 03/	30/16 13:45 Ma	atrix: Water	
Overflow			Report						Oual
•	Lab ID:	1263289002 Units		d: 03/30/16 MDL	08:50 DF	Received: 03/	30/16 13:45 Ma Analyzed	CAS No.	Qual
Overflow Parameters	Results		Report Limit	MDL	DF	Prepared			Qual
Overflow	Results	Units	Report Limit	MDL	DF	Prepared		CAS No.	Qual
Parameters 200.7 MET ICP, Lab Filtered	Results Analytical	Units Method: EPA 2	Report Limit 200.7 Prepa	MDL aration Meth	DF nod: EP/	Prepared A 200.7	Analyzed 04/06/16 12:19	CAS No.	Qual
Parameters 200.7 MET ICP, Lab Filtered Calcium, Dissolved	Results Analytical 956	Units Method: EPA 2 mg/L	Report Limit	MDL aration Meth 0.29	DF nod: EP/	Prepared A 200.7 04/05/16 11:19	Analyzed 04/06/16 12:19	CAS No.	Qual
Parameters 200.7 MET ICP, Lab Filtered Calcium, Dissolved Magnesium, Dissolved	Results Analytical 956 7.5 2420	Units Method: EPA 2 mg/L mg/L	Report Limit 200.7 Prepa 5.0 5.0 100	MDL aration Meth 0.29 0.67	DF nod: EP/ 10 10	Prepared A 200.7 04/05/16 11:19 04/05/16 11:19	Analyzed 04/06/16 12:19 04/06/16 12:19	CAS No.	Qual

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1263289

Date: 04/08/2016 10:24 AM

QC Batch: MPRP/6683 Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1263289001, 1263289002

METHOD BLANK: 302794 Matrix: Water

Associated Lab Samples: 1263289001, 1263289002

Reporting Blank Parameter MDL Result Limit Qualifiers Units Analyzed Calcium, Dissolved ND 0.50 0.029 04/06/16 12:00 mg/L Magnesium, Dissolved mg/L ND 0.50 0.067 04/06/16 12:00

LABORATORY CONTROL SAMPLE: 302795 Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Calcium, Dissolved 50 50.9 102 85-115 mg/L

 Calcium, Dissolved
 mg/L
 50
 50.9
 102
 85-115

 Magnesium, Dissolved
 mg/L
 50
 51.6
 103
 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 302796 302797 MSD MS 1263472001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Calcium, Dissolved mg/L 80.6 50 50 132 132 102 102 70-130 0 20 Magnesium, Dissolved mg/L 27.0 50 50 76.8 76.8 100 100 70-130 0 20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 302798 302799 MS MSD 1263479001 MS MSD MS Spike Spike MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Calcium, Dissolved 50 111 50 163 162 103 100 70-130 20 mg/L 37.4 50 Magnesium, Dissolved 50 87.5 87.4 100 100 70-130 0 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1263289

Date: 04/08/2016 10:24 AM

QC Batch: WETA/16165 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1263289001, 1263289002

METHOD BLANK: 302120 Matrix: Water

Associated Lab Samples: 1263289001, 1263289002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Sulfate mg/L ND 2.0 0.089 04/01/16 15:47

LABORATORY CONTROL SAMPLE: 302121

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfate mg/L 50 50.2 100 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 302122 302123

MS MSD 1263364002 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual Sulfate 74.2 90-110 0 20 mg/L 23.4 50 50 74.1 102 101

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 302124 302125

MS MSD MS MSD MS 1263276001 Spike Spike MSD % Rec Max % Rec Limits RPD Parameter Units Result Conc. Conc. Result Result % Rec RPD Qual Sulfate 13.6 250 250 262 262 99 99 90-110 0 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1263289

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

Date: 04/08/2016 10:24 AM

PASI-V Pace Analytical Services - Virginia





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1263289

Date: 04/08/2016 10:24 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1263289001 1263289002	WS-002 Scrubber Make-Up WS-003 Thickener Overflow	EPA 200.7 EPA 200.7	MPRP/6683 MPRP/6683	EPA 200.7 EPA 200.7	ICP/5055 ICP/5055
1263289001 1263289002	WS-002 Scrubber Make-Up WS-003 Thickener Overflow	EPA 300.0 EPA 300.0	WETA/16165 WETA/16165		

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				and growing the state of the st										WS-003 Thickner Overflow	WS-002 Scrubber Make-Up	SAMPLE ID One Character per box. (A-Z, 0-9/,-) Sample Ids must be unique		Requested Due Date:	Fax	1	MN 55768	Address: P.O. Box 417		Section A	Pace Analytical
														V	٧	Water DW Water WATER WATER WATER WATER WATER WATER WATER WATER P SolvEsid St. Ol. Ol. Ol. Water AF	80m	Project #:	Project Name:	Purchase Order #:	(de)	Copy To:	12	Section B	
			4		3									¥	TW	MATRIX CODE (see valid code SAMPLE TYPE (G=GRAB C=					1	om Moe	SCI BING		
	21		Contraction (1)	0										230 24-508/50 21-85	3-3016 09:00 3-3016 09:00	START			NPDES-LINE 3 Wkly			0	Jillanon;		
PRINT			2									<u> </u>	-	8,00%	G' 00 }	<u>F</u>	COLLECTED		Wkly				l		-1.0
PHINT Name of SAMPLER:													,	* *	36	DATE	TED								CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be compared.
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Custody Sealed			0														None of						_		
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Pace Analytical*

Document Name:

Sample Condition Upon Receipt Form

Document No.: F-VM-C-001-Rev.09 Document Revised: 23Feb2015

Page 1 of 1

Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition **Upon Receipt**

		Project
soperal	ion	
□UPS □Pace	USPS	X Client
Myos 1		Seals Intact?
	□UPS □Pace	Pace Other:

WO#:1263289

Courier: Fed Ex UPS Commercial Pace	USPS Other:	_	Client	1263	289	
Tracking Number:					<u>— : : : </u>	
Custody Seal on Cooler/Box Present? Yes]No	Seals I	ntact?	Ø Yes □	∐No	Optional: Proj. Due Date: Proj. Name:
Packing Material: Bubble Wrap Bubble Ba	ıgs 🔲 N	one 🥻	Other:	despad		Temp Blank? Yes No
Thermometer Used: 140792808	Type of				□None	
Cooler Temp Read °C: 1-3 Cooler Temp C		- '	•	1		
Temp should be above freezing to 6°C Correction Fact	tor: To.	ž	Date an	ıd Initials of	Persor	ological Tissue Frozen? Yes No NA n Examining Contents: 3)30)16
Chain of Custody Present?	Yes	□No	□N/A	1.		
Chain of Custody Filled Out?	Yes	□No	□N/A	T		
Chain of Custody Relinquished?	Yes	□No	□n/a			
Sampler Name and Signature on COC?	Yes	□No	□n/a	4.		
Samples Arrived within Hold Time?	Yes	□No	□N/A	5.		
Short Hold Time Analysis (<72 hr)?	Yes	MO	□N/A	6.		
Rush Turn Around Time Requested?	□Yes	MNo	□N/A	7.		
Sufficient Volume?	(€)Yes_	□No	N/A	8.		
Correct Containers Used?	₩Yes	□No	□n/a	9.		
-Pace Containers Used?	Yes	□No	□n/a			
Containers Intact?	Yes	□No	□N/A	10.		
Filtered Volume Received for Dissolved Tests?	Yes	□No	□N/A	11. Note	if sedin	ment is visible in the dissolved containers.
Sample Labels Match COC?	XX Yes	□No	□N/A	12.		
-Includes Date/Time/ID/Analysis Matrix: wh						
All containers needing acid/base preservation will be checked and documented in the pH logbook.	Yes	MNO	□n/a	See pH docume		or results and additional preservation ion
Headspace in Methyl Mercury Container	□Yes	□No	∭ N/A	13.		
Headspace in VOA Vials (>6mm)?	Yes	□No	₩ N/A	14.		
Trip Blank Present?	□Yes	∏No	∭ N/A	15.		
Trip Blank Custody Seals Present?	☐Yes	□No	□ N/A			
Pace Trip Blank Lot # (if purchased):				L		
CLIENT NOTIFICATION/RESOLUTION Person Contacted:			[Date/Time:		Field Data Required? Yes No
Comments/Resolution:						
						
		,				

FECAL WAIVER ON FILE Y N				RE WAIVE		
Project Manager Review:	41	1		No	•••	2/20/11/0

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)